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“PARTNERSHIP BETWEEN THE WORLDS OF EDUCATION AND WORK – A THREATENING SCENARIO OR A BEACON OF HOPE?”

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Resumo

Embora o mundo da educação e o mundo do trabalho são, sem dúvida, complementares, a relação entre essas importantes realidades nunca foi pacífica. Educadores humanistas defendem que as escolas deveriam ser protegidas das intenções manipuladoras, auto-centradas do mercado de trabalho. A educação deve permitir que os indivíduos se transformem em cidadãos emancipados e criticamente conscientes, cidadãos autônomos, capazes de compreender e participar do mundo em que vivem. Os neo-liberais afirmam, com igual intensidade, que o sistema educativo tem contribuído para o declínio económico e para a deterioração da aprendizagem escolar reclamando uma mudança radical de direção e política. A necessidade de melhorar a eficácia da educação e da formação tem conduzido a uma expansão de programas de aprendizagem inicial baseada na formação extra-escolar. Em Portugal, apesar de existirem múltiplas modalidades de educação-formação, o Sistema de Aprendizagem é a única onde a empresa e a aprendizagem extra-escolar são dominantes. Apesar do forte nível de empregabilidade e da aprendizagem proporcionada no contexto real de trabalho permanece difícil convencer os stakeholders do valor desta obscura alternativa de formação inicial. O número de participantes no Sistema de Aprendizagem tem vindo a diminuir, sendo cada vez mais difícil encontrar empregadores dispostos a participar, factores que tem levado alguns a questionar a sustentabilidade desse sistema alternativo de educação-formação extra-escolar. Esta comunicação oferece uma perspectiva histórica e avaliação crítica das principais características do Sistema de Aprendizagem português. O objectivo é permitir uma melhor e mais profunda compreensão a única oportunidade de educação-formação inicial genuinamente extra-escolar que alguma vez existiu em Portugal.

Abstract

Although the world of education and the world of work are unquestionably complementary the relationship between these important realities has always been uneasy. Humanistic educationalists defend that schools should be shielded from the manipulative, self-serving intents of the work market. Education must allow individuals to achieve emancipation and become critically aware, autonomous citizens, capable of understanding and participating in the world they live in. Reform-minded neo-liberal enthusiasts claim, with equal strength, that the education system has contributed to economic decline and to the deterioration of school learning calling for a radical change of direction and policy. The need to improve education and training effectiveness has led to an expansion of work-based learning (WBL), Initial Vocational Education and Training (IVET) programs. In Portugal, although multiple forms of IVET co-exist, the Dual Apprenticeship system (DAS) represents the only genuine WBL IVET opportunity available. Despite the strong level of employability and real-world learning, it is perplexingly difficult to persuade the stakeholders in education about the value of this obscure alternative out-of-school pathway. The number of those taking part in the Portuguese DAS has been decreasing and finding employers willing to participate remains difficult, leading some to question the sustainability of this alternative IVET WBL system. This presentation offers a historical overview and critical assessment of key underlying features of the Portuguese IVET DAS. The aim is to provide a deeper understanding the only genuinely IVET WBL, out-of-school initiative that has ever existed in Portugal.

Palavras-chave: Sistema de Aprendizagem; Formação Profissional; Transição para a vida activa; Educação Liberal/Profissional

Keywords: Dual Apprenticeship System; Training; School to Work Transition; Liberal/Vocational

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Partnership between the worlds of education and work – A threatening scenario or a beacon of hope?

For approximately a decade following the Carnation Revolution of 1974 – a major political event that freed Portugal from several decades of fascist dictatorship rule – Initial Vocational Education and Training (IVET) was all but a forgotten thing. The atmosphere was brimming with democratic zeal and the primary concern of clearly left-wing education policymakers at the time was, quite understandably, improving and expanding general education and assuring that the entire population had free and unlimited access to it (Pedroso, 1993). However, increasing international pressure from major bodies such as the World Trade Organization (WTO), Organization for Economic Cooperation and Development (OECD), The World Bank (WB) and particularly from European Union (EU) authorities before and following Portugal's induction in 1986, coupled with the tough economic crisis and high levels of youth unemployment of the mid 1980's signaled the return of IVET as an educational policy priority, giving way to the creation of a wide array of pathways and opportunities for young learners at all levels of education (OECD, 1984; Verdasca, 1992). Although IVET pathways were still not a major force within the educational scenario, they were, nonetheless, back on the map.

The renowned 2000 Lisbon Summit which produced the just as renowned Lisbon Strategy was a game-changing moment for IVET in Portugal and for many other countries in Europe where IVET pathways existed, but were not particularly popular or widespread. All forms of Vocational Education and Training (VET) – including IVET – became considered one of the major factors for economic and social growth and development. The 2002 Declaration of Copenhagen signaled the formal commitment by EU member States to confer priority to all forms of VET – particularly IVET – precisely because of the major role it was believed to play in overall societal well-being. These events set the stage for the rapid multiplication and ascension of IVET pathways within the European and Portuguese educational landscape (Torres & Araújo, 2010).

However, the expansion of IVET in Portugal, which began in the second half of the 1980's and picked up considerable steam from 2005 onwards, lacked direction and was somewhat chaotic. The Ministry of Education and, on a smaller scale, other ministries as well, put forward a vast and complex array of competing IVET courses which, despite relatively small and insignificant differences in curriculum, characteristics and duration, provided young learners with essentially the same end-product – an officially certified twin certification study certificate that conferred both professional and academic qualification (Alves, 2001; Torres & Araújo, 2010). Many of the courses provided learners with a professional training certificate in exactly the same occupational field. It was a perplexingly complex scenario, difficult to grasp and understand even for seasoned educational agents, much less for parents and young learners who had to decide on which educational pathway to embark on¹ and had so much of what seemed the same to choose from.

Two important developments – so often overlooked – played a vital role in launching IVET to the forefront of Portuguese educational concerns. The first one, in chronological terms, was the the New Opportunities Initiative (NOI) – in Portuguese, the “Iniciativa Novas Oportunidades” (INO). This Initiative set the bold and uncompromising objective of having 50% of all young Portuguese students enrolled in IVET pathways at the secondary school level by 2010. From almost night to day it was mandated that IVET was to undergo a tremendous increase in a relatively short period of time – 5 years. The other major development was the creation – by Decree-Law 296/2007 of December 31 –of the National System of Qualifications (NSQ) – in Portuguese, “Sistema Nacional de Qualificações” (Torres & Araújo, 2010).

This all-embracing system, composed by a number of different components operating in close collaboration and interaction, was to be orchestrated by the National Agency for Qualifications (NAQ) – in Portuguese, “Agência Nacional de Qualificações” - its leading element, responsible for managing and addressing all issues concerning professional qualifications at the non-higher education level. All courses that contained a training component, regardless of the size, duration, modality, nature or finalities became subject to NAQ rules, regulations and supervision. The NAQ Catalogue – universally accessible and

downloadable at the NAQ websiteⁱⁱ – contains the referentials for *all* vocational training for *all* non-higher education learning programs.

One of the main purposes of the NAQ was to establish order in a disorderly and disconnected VET and IVET landscape where it seemed competing institutions from various Ministries had their backs turned toward one another and were solely concerned in achieving their own aims, while blithely unaware and with practically no understanding of what IVET pathways other entities surrounding them had to offer (Quatenaire/IESE, 2007). Existing pathways had to be made more harmonious and compatible. A wholesale review of existing IVET pathways was thus undertaken in order to improve overall effectiveness, rationalize the immense and disperse body of infra-structures and resources, increase compatability, enable convergence between courses and pathways and, basically, make the whole IVET system more responsive, flexible, balanced and coherent.

For approximately two decades, the diverse range of basic and secondary level IVET pathways available to youth within and outside the school system existed as wholly independent realities, ‘isolated’ islands in a sea of competing opportunities with no bridges establishing links between them. Mobility between course programs belonging to distinct IVET pathways, even in cases where virtually identical or closely related professional fields within the same level of education were being learned, was simply and absolutely non-existentⁱⁱⁱ (Torres & Araújo, 2010).

The existing panoply of IVET pathways was literally done away with. In a bold move, the NAQ determined that, at the secondary school level – the focus of concern in this paper –two distinct IVET pathways should be allowed to co-exist – Professional courses (in Portuguese, “Cursos Profissionais”) and the Dual Apprenticeship System – DAS - (in Portuguese, “Sistema de Aprendizagem”). The first type of courses, presently available to young learners in virtually all public schools and also within a large and wide network of private schools, exerts near total dominance, accounting for well over 90% of students enrolled in IVET pathways at the secondary school level. The Portuguese DAS, which has been around for almost 30 years, subsists today, just as it always has, in the shadow of more widespread and popular IVET pathways. It exists and has always existed in near total obscurity, a system of learning surprisingly misunderstood, unknown and undiscovered by nearly the entire population, even by seasoned teachers, educational agents and researchers (Alves, 2001).

I. The Portuguese DAS – Conception and evolution

Apprenticeship is by no means a new or revolutionary concept. It has been around, as an officially recognized system of training a new generation of practitioners in a wide range of occupations, for several centuries, in Europe and many other regions of the world (Tremblay & Le Bot, 2000). The organizing principle that distinguishes today’s modern apprenticeships from those of the near and distant past is the fact that learning through practice at the workplace occurs itinerantly with learning at school or at a training centre. In other words, it is a system where students alternate periods of learning within a formal educational institution with periods of learning within a work organization (Grollmann & Rauner 2007; Walden & Troltsch (2011). This is often referred to as the principle of ‘duality’ and, although the amount of time a student spends at the learning site and work site and other specific features may vary from country to country, it is this principle that governs virtually all IVET apprenticeships programs the world over (BIBB, 2011) . Therefore, it is more precise to label this system not simply as “apprenticeship”, but as “Dual Apprenticeship System” (DAS).

DAS programs worldwide attribute priority to the development of workplace readiness skills and are often accused of sharing a narrow-minded concern in designing learning content and creating a culture of achievement tailored to market imperatives and employer needs which have led many educational analysts and policymakers to express serious reservations about this alternative educational pathway alleging that it does not genuinely serve the deeper interests of young school-aged populations (Shavit & Müller, 1998; Lehmann, 2005). However, many of these critical views overlook or choose to ignore that many of the participants in DAS feel no need or may even have an aversion with regard to learning that is

remotely academic/theoretical and are totally unconcerned about understanding or changing their world or playing a more active role in it (Walden & Troltsch, 2011).

Apprenticeship programmes were created – in nearly all countries worldwide - to provide a response for the least successful and largely forgotten school-aged and unemployed youth (. This widely acknowledged two-track strategy has, rather unavoidably, led to the stigmatization of the dual system alternative and IVET in general as opportunities provided to those who have failed in mainstream education – a sort of “consolation” prize (Tremblay & Le Bot, 2000). This stigmatization that has increased over the years – particularly since the 1980’s onwards when IVET schemes became more popular and widespread – having caused it to be considered an unattractive post-compulsory educational pathway that many school-aged youth and their parents avoid or only reluctantly accept (Buchel, 2002).

Although the most successful and promising students, those with higher records of achievement, only rarely consider any other option other than academic/general education pathways, the fact that all forms of IVET are frowned upon by society as a whole has caused this pathway to be overpopulated by school-aged youth with less successful school trajectories and potential for learning and development (Lehmann, 2005). According to Bertrand, Durand-Drouhin, & Romani (1994), “In most competitive industrialized countries (Germany, Japan), candidates for skilled worker training used to constitute a kind of elite; today, however, they are most likely to be the “rejects” of the academic system” (p.4). The ability of DAS to attract more and more high-quality participants is largely dependent on overcoming the pernicious “parity of esteem” debacle debated referred to by many authors.

In Portugal, implementation of DAS marked the introduction of an alternative *out-of-school* IVET pathway that attributed both academic and professional certification and signaled, fundamentally, that policymakers had acknowledged an inability to stem the exodus of students from the formal school system before completing nine years of basic schooling (a key element for the future of education envisioned by school officials at the time) and, as a result, the need to put forward a viable solution this problem (Pedroso, 1993; Alves, 2000, 2001).

The birth of DAS was, unsurprisingly, accompanied by growing pains. Portugal had no tradition whatsoever in this specific form of IVET and only an extremely limited, in scale and scope, four year pilot-initiative pedagogical experience to build upon^{iv}. For the Portuguese DAS, it was a long road to maturity. It was only in 1985 that a functional regulatory framework was published, enabling the creation of courses covering five sectors of economic activity: metalworking, electronics, agro foods, computing technologies and clerical work. A handful of young participants began their courses in the same year, however, DAS IVET was only effectively put into practice in 1986 (Pedroso, 1993).

To the unknowing observer, the fact that the 1984 Law n.º 102/84 which established the Portuguese IVET DAS was formally the result of a joint effort by the Ministry of Education and Ministry of Labour and Social Security, generates the impression that officials from both parties played a somewhat equal part in its development. However, this idea is far removed from reality. The Ministry of Education played a passive role, limited to little more than participating in meetings and signing on to ideas and proposals put forward by the Ministry of Labour and Social Security that were needed to put the DAS in motion (Matias & Pedroso, 1993).

Governance of this alternative out-of-school IVET scheme has, from the very beginning and until this day, been attributed, solely and exclusively, to government organisms and institutions, under the command of the Ministry of Labour, namely the Institute of Employment and Vocational Training – IEVT - (Instituto de Emprego e Formação Profissional – IEFP). The DAS represents the first response to the emerging concern, voiced by many within educational community, with the need to strengthen ties and build working partnerships with agents and institutions located outside the traditional school education environment (Verdasca, 1992; Cabrito, 1994).

From 1988 onward a significant number of new professions belonging to various sectors of economic activity were added to the DAS repertoire, offering a greater variety of options to young unemployed youth and enabling the participation of employers who, despite being able and possibly willing to participate, were denied a chance to take part in this IVET DAS educational pathway. By 1994, the DAS repertoire consisted of more than two hundred individual course plans in 27 distinct professional domains

(Pedroso, 1993). Often overlooked or underplayed in the few studies that examine the Portuguese DAS is the absolutely crucial role played by EU funds in the system's growth and development. EU funds have been the major source of financial support for the DAS in Portugal ever since it became more widespread - from 1987 onward – and it is quite possible that, had it not been for this major source of funding, the DAS would never have become an IVET pathway available to the population at large (Torres & Araújo, 2010).

During the initial years DAS remained restricted to the pre-secondary school level. The launch of secondary school level IVET DAS educational pathways in 1990 was a revolutionary step forward, a game-changing measure that marked the beginning of a new era in this alternative form of education and training for youth (Pedroso, 1993, Alves, 2001). For the first time, students that had successfully completed basic compulsory education were offered the opportunity to further their education through participation in an out-of-school IVET pathway. Entirely new DAS course programs, with significantly enriched and more demanding curricula, were created to harbor new participants who entered the system with a considerably higher level of education, different needs, aspirations and expectations, as well as a greatly increased learning potential.

The introduction of the IVET DAS secondary school level pathway not only provided an authentically alternative pathway to unemployed youth with higher levels of education, it also enabled teachers, trainers and tutors to focus on developing more complex, higher-level skills and competencies that better and more fully responded to the changing needs and requirements of employers struggling to remain afloat amidst a rapidly changing and more challenging market environment (Neves, Pedroso & Matias, 1993).

The Portuguese DAS underwent a complete reversal in less than two decades. Until 1990, DAS was available only to those who had not yet successfully completed basic education; however, from the moment secondary school level IVET DAS courses were introduced the number of participants grew dramatically, creating new demands and absorbing a larger amount of funds. From 2005 onward, as the Ministry of Education created new programs to retain students within the regular school system until completion of compulsory basic schooling, IVET DAS at this level of education began to be phased out progressively (Torres & Araújo, 2010). In 2008, a new legal framework was published^v declaring IVET DAS to be exclusively available at the secondary level of education, officially putting an end to this alternative out-of-school learning scheme at the basic level of school education. Thus, IVET DAS at the basic level of education went from being the only one existent, to non-existent and, conversely, IVET at the secondary level of education went from non-existent, to the only one existent.

The Portuguese IVET DAS has been subject to three major pieces of governing legislation since its inception. The first one, in 1984, which gave birth to this alternative form of IVET, established its nature, finalities, organization and key defining elements – much of which remains relatively unchanged today (Neves, Pedroso & Matias, 1993). The experience and teachings provided by the first twelve years as well as the need for organizational and pedagogical reform able to ensure better adjustment to the significant changes in education, vocational training and the labour market, led to its replacement by a second one in 1996. Despite the considerable pedagogical, structural and organizational adjustments, refinements and enhancements, this second piece of governing legislation introduced no changes to the nature and finalities of IVET DAS (Alves, 2000).

Coincidentally, another twelve years down the road, in 2008, a third legal framework was put forward for the IVET DAS, which entirely replaced the one that have governed it since 1996. Unlike the second one, which produced no truly noteworthy changes to the major features of DAS first established in 1984, the most recent and current governing legal framework introduced significant modifications to this alternative IVET pathway, making it not so unique and not so much of an alternative as it once was. The most noteworthy and highly significant change brought about by 2008 overhaul of the Portuguese DAS, was that just like all other existing IVET pathways and VET of any type or duration, the DAS was obliged to adopt programs (or referentials) available in NAQ Catalogue – which effectively thrust modularization upon this alternative system of learning. The all-imposing NAQ Catalogue - an instrument structured upon a competency-based system of learning that many have proclaimed as the answer to the so-called

‘crisis’ in education - determined that qualifications should be attributed based on proven competencies and that the possession of a proven set of competencies demonstrates work market readiness in a given profession or set of inter-related professions.

By imposing competency-based learning (CBL) as the standard and cornerstone for all IVET, the NSQ went a long way towards achieving the stated objective of harmonizing, introducing greater uniformity and building bridges between IVET systems that had previously been living in encapsulated worlds, totally cut off from one another. However, by dictating that all training should be organized upon modular units of learning, it did away with the principle of occupational learning which had long been one of the most cherished and defining features of the DAS. In this respect, Portuguese education officials made a clear break with tradition in other countries, especially the one existing in Germany upon which the their DAS was so closely modeled upon. Although German officials have dwelled on the possibility of making the move to modular system (Buchel, 2002; Grollmann & Rauner, 2007); DAS remains rooted in the principle of occupational learning, though no one is certain for how long. Walden & Troltsch (2011) argue that “there has also been a broad and controversial discussion in Germany about a modularisation of vocational training in the dual system. But corresponding proposals have not been implemented for fear that they would weaken the system of recognised vocations” (p. 317).

The new legal framework created in 2008 also introduced a dramatic reduction in the duration of course programs. Under the 1984 Law that founded and first governed the DAS, typical course programs had a duration of around 5000-5300 hours, the 1996 governing Law oversaw a progressive reduction to approximately 4500-4800 hours and, today, course programs are required to have a duration anywhere between a minimum of only 2800 hours to a maximum of 3700 hours. For example, the Administrative Technician (Técnico Administrativo) IVET DAS secondary school level course, when first created in 1985, had a total duration of 5330 hours^{vi}. Under the auspices of the 2008 Law – that signaled the introduction of modularization and adopted the Competency-based learning (CBL) paradigm – the curricular structure was subject to a major review. Today, only 3275 hours are required to complete the same Administrative Technician course^{vii} – an enormous drop of 2055 hours in course duration. Despite the major redesign of course content and structure, it still offers the same secondary school degree and certificate of professional qualification.

The reduction of approximately 2000 hours in a great number of the DAS programs of study that have been around almost since the system was officially established in 1984, is a major change, often overlooked and underemphasized, that reflects a fundamental change in philosophy, policy and direction. Some have cited neo-liberal inspired concerns in lowering costs with education as the major reason for the significant reduction in the duration of all DAS courses (Hanhart & Bossio, 1998; Grollmann & Rauner, 2007).

Others believe that the decrease in the number of hours in subject-related curricula in all educational pathways (not just IVET) results from a fundamental shift in educational policy and signals the rise of a new and European-wide paradigm for education and learning. Today, as the constructivist perspective takes hold and Lifelong Learning (LLL) paradigm gains strength, far more emphasis is attributed to learning - not just learning within an educational context but all forms of learning – and, consequentially, less to teaching and pedagogy. According to Fry (2009) “educational research has long recognized that learning is less effective the more the learners depend on the teacher and the less they take responsibility for their own learning” (p. 331). She adds that “in a world which is changing so rapidly students need not so much to accumulate knowledge as to learn *how* to acquire knowledge both now and in the future” (ibid). Thus, if the accumulation of knowledge is not as important as it was once thought to be, as we are told, then there is really no need to expose learners to programs of studies so lengthy and laden with content.

Despite the enormous reduction in the overall duration in the wide range of DAS programs available, the actual number of hours consigned to out-of-school learning within the real work context was increased in the large majority of professions. For example, despite the overall duration of Administrative Technician course being drastically reduced from 5330 to 3275 hours (a drop of almost 40%), the number of hours attributed to learning within the real work context suffered a slight increase from 1440 to 1500 hours. In

the original version of this course, learning within a real work context represented less than 30% of the total course duration, while in the revised program of studies it represents almost 50%. On the other hand, the number of hours attributed to learning at the training center – (i.e. within an educational context) – suffered a tremendous decrease of more than 100%, having been slashed from 3890 to a mere 1775 hours. Notwithstanding slight and rather insignificant differences, the Administrative Technician referential faithfully reflects the changes in structure and duration implemented across all DAS course referentials. Today, the DAS is more closely connected than ever before to on-the-job experiential learning – centered on the learner and his own ability to acquire and develop employability through work-centered skills and competencies.

II. Portuguese DAS – An overview^{viii}

DAS courses are aimed at young people who must cumulatively comply with the following age limits and school qualifications: aged under 25, successfully completed basic education (lower secondary level) or have attended, but not completed, an upper-secondary school pathway^{ix}. Anyone wishing to participate in a DAS course must be registered at one of the 87 Employment agencies in Portugal^x. Those who take part in DAS courses are officially designated as ‘unemployed youth’, not ‘students’ – a rather unheard of, awkward and unpopular term within the DAS and IEVT environments. From the very onset, the IVET DAS was projected as a clear alternative to formal school education and, for this reason, has openly sought to distance itself as greatly as possible from any connection to the dominant philosophy, teaching and pedagogical principles and practices, assessment techniques and methods and general scholastic and theory-based learning usually connoted with traditional education (Neves and Pedroso, 1996; Pedroso, 1996; Alves, 2000). As is the case in the large majority of DAS in Europe, not only is participation free of cost, but the apprentices are entitled to a number of allowances to assist with lodging, transport and eating expenses.

According to the 2008 law that presently governs the DAS, the *only* organizations that are expressly banned from becoming DAS training entities are “basic, secondary and vocational schools”, which demonstrates just how strongly Portuguese education authorities want to preserve the DAS’s distinct identity and avoid any possibility of it suffering the influence of the culture, methodologies, principles and practices widely associated with formal school education.

It is our belief that the most outstanding feature of the DAS – which clearly sets it apart from any other education and/or training system in Portugal, at any level of education – is the possibility of private sector for-profit organizations (i.e. businesses) to effectively, independently and autonomously run and manage learning programs that lead to both an officially and legally recognized education credential and certificate of professional qualification. Although subject to rules, regulation and supervision by public authorities, businesses are not simply allowed, but strongly encouraged to play an active and leading role in the DAS. In fact, the DAS enables large well-known private enterprises such as SONAE, Microsoft, EDP, Galp, Efacec or McDonalds, who have the resources that would easily allow them to establish themselves as certified training entities, not only to act as partners in learning and education, but actually run the entire show.

For example, the McDonalds restaurant chain, once it met the requirements to become a certified training entity, could apply to undertake the course designated as “Table/bar Technician” which according to the NCQ belongs to Education and Training area 811 “Hotel and Restaurant Services”. If approved, it would be charged with all the tasks and responsibilities with running the course, including providing and maintaining classroom facilities, hiring and firing administrative staff, teachers, trainers and tutors, providing apprentices with the necessary material and equipment, preparing meetings and defining assessment techniques and procedures and assuring a placement in the workplace for all the apprentices. According to the law that governs DAS, McDonalds would have a better chance of being selected as an external training entity if it assured a workplace vacancy for all the apprentices within its own chain of restaurants. In this case, the entire provision of VET would be under its direct influence and control.

All IVET and VET course curricula or programs – DAS or otherwise – can be found in the NAQ's National Catalogue for Qualifications (NCQ). The entire catalogue is built and structured upon the principles of modularization and Competency-based learning (CBL). No matter the vocational course one examines or regardless of the component of learning one focuses upon – socio-cultural, scientific, technological or practice-based – all the training/learning content in the Catalogue is divided into rigid modules of 25 and 50 hours, named *Unidades de Formação de Curta Duração* (UFCD), which may be translated as Short Duration Training Units (SDTU). Those who successfully complete a given SDTU are considered to possess the competency or competencies that the unit was created to develop. The shift to modularisation, put in effect by reform legislation published in 2008, is the most pronounced and significant change to have occurred to the DAS ever since it was officially created in 1984.

Metaphorically, SDTU's can be imagined as blocks of world-renowned Lego and the DAS and all other IVET course programs as the endless list of objects, such as houses, vehicles, cities and so much more, these versatile blocks of Lego are used to construct. Lego parts are building blocks and so are SDTU's. They are the substance and essence of today's IVET courses, however, if disconnected from one another they lose a great deal of their significance, usefulness and effectiveness. The Portuguese NCQ provides an excellent textbook example of modularisation – where competency is delivered in a “box” and IVET shipped on “pallets” carrying these “boxes”.

The fact that almost the entire apparatus set up to stage any DAS course is essentially “ad hoc” in nature provides this modality with a large degree of freedom, adaptability and plasticity not easily matched by other providers of IVET. A significant part of the workers or collaborators – administrative staff, teachers, trainers, tutors, etc. – brought together to undertake any given DAS course are temporary and/or part-time workers who have signed a limited, short-term contract to provide a specific service, not full-time, permanent staff. For these, once the service they have been contracted to provide is completed, the contract with the training entity is terminated. Teachers and trainers in particular (who arguably play the most important role in IVET) are fully aware that the chance of another course being launched, or of being asked to provide their services to the same or to other training entities largely depends on their performance or on the assessment others make of their performance. Perversely, this instability, insecurity and uncertainty may provide the added incentive for the pedagogical staff to try a little harder and perform a little better.

An even greater advantage of the DAS may be the fact that each and every course subsists as a wholly independent and autonomous reality where actions and decisions are not determined or conditioned by external realities, such as a Directorate or Ministry, to which it may belong. This provides training entities with an enormous degree of freedom, flexibility and decision-making power not available to the large majority of educational providers. DAS courses are out-of-school realities, “islands” on the IVET map conditioned only by the law and the DAS Regulation.

In spite of the major transition, in 2008, towards modularisation, the out-of-school, on the job context of learning, despite being attributed a larger share of the total number of hours of training in every course, remained essentially untouched. Training entities overseeing the course provide employers with a introductory handbook that offers an overview and general guidelines with regard to the DAS that includes a brief description of the on the job learning component and some documentation, but absolutely *no curricular or specific learning content or even guidelines*. The 1100 to 1500 hours (almost all courses have the maximum number of hours permitted) IVET DAS trainees spend learning at the workplace is still organized and entirely carried out at will by employers, with little or no supervision or interference.

It is difficult to argue against the need, espoused by Neves and Pedroso (1994), to move toward the association or articulation model of pedagogy and away from the juxtaposition model that has always been, and still remains, the dominant one in the Portuguese DAS. This is even truer today given the enormous weight that the out-of-school learning component now carries following the changes introduced by the 2008 legislative overhaul. In the juxtaposition model the in-class period of learning that takes place at the training center or any other physical location is totally cut off from the experiential period of out-of-school, on-the-job learning that occurs within work organizations. Each element carries on with their own activities disconnected from the other side with virtually no knowledge of what is being learned on

the opposite side of the divide. Partnership for learning only exists on paper, not in practice. In the articulation model, the sides act as partners in learning, working more closely together, exhibiting a certain degree of coordination, exchanging knowledge, information, experiences and ideas, without, however, compromising their independence and autonomy essential to assure that the distinctive goals set out for them are effectively met (Neves and Pedroso, 2004). Still, demanding too much commitment and teamwork from employers who have other priorities and concerns to worry about carries with it the serious risk of losing them. It is essential to strike a balance since the dual system cannot do without employers or, without a sufficient number of them. Employers are the foundational element of the DAS and provide it with a unique identity – that clearly sets it apart from all other IVET pathways.

The DAS is an alternative IVET pathway particularly challenging to oversee and successfully put in practice mostly due to the fact that courses are carried out within two diametrically opposed contexts of learning that share very little in common. Education or training institutions and employers or work organizations view realities from opposing angles, function differently, are drastically dissimilar in nature and also possess concerns, priorities and objectives that are poles apart (Buchel, 2002; Lehmann, 2005; Grollmann & Rauner, 2007; Walden & Troltsch, 2011). Although it is naive to believe these asymmetries can be overcome or erased, communication, collaboration and compromise between all parties directly involved in this system of learning is fundamental to provide an enriching learning experience for young learners which may also bring benefits to the diverse range of employers who participate and make it possible for this alternative out-of-school IVET pathway to exist (Pederos, 1996; Alves, 2000; Tremblay & Le Bot, 2000).

III. The road ahead

The Portuguese DAS has always been an obscure IVET pathway, totally unknown or even unheard of by a significant part of the population, including seasoned teaching and guidance professionals within the formal educational system. Even in its strongest period of growth, from 1999 to 2006, the total number of participants in courses carried out by public sector and private sector entities would fluctuate between approximately 24 000 to 27 000 individuals. At its peak, the system accounted for just a little less than 8% of the total number of school-aged youth within the entire secondary school system, however, generally speaking the figure has generally been under 5% - a far cry from the figures in Germany, Switzerland, Austria and other countries with a strong and long tradition in the DAS, where roughly 50% of secondary school-aged participate in this alternative IVET pathway (Torres & Araújo, 2010).

Portuguese DAS has indeed “survived”, but certainly not thrived in nearly three decades of existence. Although a number of national and international studies have shown that the DAS eases the transition to work process and significantly increases employability, there appears to be good reason to question the sustainability of this system. DAS courses are financed approximately 75% by EU funds and the average cost to undertake a program is slightly over 237 000 Euros over the course of its duration (Quatenaire/IESE, 2007)^{xi}. Many question what will happen next. Will policymakers have the resolve or find a way to give continuation to this alternative IVET pathway when the EU fund well eventually runs dry? This remains an unsolved mystery. There is good reason for concern because the fourth and current EU Financial Support Package ends in 2013 and many believe it is the final one.

Today, the Portuguese IVET DAS faces stronger than ever competition from other educational providers who, largely due to the drastic decrease of the birth rate over the past few decades (a recurrent phenomenon in many countries in the developed world), are having to fight among themselves for learners from the continuously shrinking pool of young individuals available. Another major and often overlooked obstacle is that the government body that oversees DAS - IEVT – does not go hunting for potential candidates at schools (students who have completed basic compulsory education) and extremely few of these learners take the step of visiting their local Employment Center where they may gain knowledge of DAS and perhaps opt for this alternative IVET pathway.

However, although the uncertainties with regard to funding and the difficulty in recruiting young participants are real and legitimate concerns, lack of employer interest and involvement are what most

place the DAS at risk (Quatenaire/IESE, 2007) . Even if the Portuguese DAS had the will and resources necessary to exponentially increase the number of participants it would most likely be unable to mobilize the number of employers necessary to allow the system to grow and expand. Learning in the real work context is what makes DAS possible and unique, yet this is only can only be materialized if employers are willing participate. Training entities have been stretched to the limit securing the necessary on the job placements for the comparatively low number of participants in the DAS over the years, so it is difficult to imagine how they would cope if the system underwent a significant expansion.

Ironically, DAS perspectives for growth are limited just as the ideological and political tide has been turning in its favor. The idea of allowing market agents to play a key role in education has always been a hotly debated issue met with strong opposition from die-hard conservative educationalists who argue that young learners should be shielded from the manipulative, self-serving intents of the work market agents (Tremblay and Le Bot, 2000; Grollmann & Rauner, 2007). However, EU policymakers who have for the past few decades systematically sought to strengthen IVET pathways and increase employer involvement in education, have probably never encouraged market agents to play a more active role in education as they do so today. Yet, these efforts have not produced the desired results. All across Europe – including in Germany, the DAS bulwark - education policymakers and employers are questioning the ability of DAS to effectively respond to contemporary work market demands (BIBB, 2011; Walden & Troltsch, 2011). In a remarkable twist of fate, the importance employers attribute to the ability to learn continuously and autonomously coupled with their need for a broader and more complex set of competencies has led to the revival of general education and to second thoughts about the usefulness and the need for IVET – including the DAS (Lehmann, 2005). IVET DAS will have to adapt accordingly if it wishes to remain feasible in a complex ever-changing work market that knows no frontiers.

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ⁱ See Torres and Araújo (2010) for a more complete description and understanding of the complexity of IVET we are referring to.

ⁱⁱ Detailed information concerning course programs in every imaginable occupational field can be found at the website <http://www.catalogo.anqep.gov.pt/>. This site offers much information to be explored.

ⁱⁱⁱ For example an individual who has successfully completed two years of a Electronics repairman course in a Vocational school and, for a number of reasons, wishes to transfer to the same course within the DAS system (one that attributes the same professional qualifications certificate), or vice-versa, must start from ground zero. This constitutes one of the major reasons IVET systems in place were labeled as 'competing' by many educationalists and researchers. No mechanism (and, no political will) existed to enable mobility or transfer between them. Despite the two years successfully concluded by the individual within the other IVET system from which he wishes to depart, may have contributed to his stock of skills and knowledge, officially, it remains unacknowledged and is granted no equivalence or certification whatsoever. Although unlimited and unrestricted mobility between IVET courses and systems may generate excessively high levels of instability and create serious pedagogical difficulties to all those involved, a totally fenced off system also severely limits individual rights, freedoms and opportunities.

^{iv} This pilot-initiative was a State program undertaken in almost laboratorial conditions. A few hundred students participated in a dual system of learning within a group of 7 hand-picked large industrial firms particularly well-suited for this type of education and training initiatives. These 7 companies were solely and entirely responsible for carrying out the learning programs they were attributed – both the in-class and on-the-job components. Generalization of this initiative, which gave way to the creation of the Portuguese DAS, would prove difficult because not all employers had the ideal conditions and resources to participate in the DAS with the same degree of effectiveness and success.

^v Portaria 1497/2008, a joint Ministry of Education and Ministry of Labour and Social Solidarity initiative, published on December 19

^{vi} **Portaria n.º 891/92, of September 15** – published in 1992, is the piece of legislation that created and defined the course profiles and programs of studies for a host of professions within the clerical services sector, including 'Administrative Technician'.

^{vii} A comprehensive, extensive and detailed description of the course profile, its subjects and syllabi and respective duration, can be universally accessed and download at the National Agency for Qualifications (NAQ) website - the state agency that governs and oversees all issues concerning initial and continuous vocational education and training for youth and adults; employed and unemployed. The Administrative Technician course DAS referential can be accessed at: <http://www.catalogo.anq.gov.pt/Qualificacoes/Referenciais/658>. All VET modular unit description and course referentials in every professional or occupational field can be found in the NAQ catalogue – universally accessible on the Internet.

^{viii} The first-listed author of this article is currently working on his Phd thesis which makes a thorough and lengthy examination – past to present – of the Portuguese Dual Apprenticeship System. Much of the information provided is based on formal and informal dialogues with decision-makers at the Institute for Employment and Vocational Training (IEVT) who are responsible for overseeing this alternative IVET pathway. Those who head this public institution have granted him access to enormous non-confidential sources of information not available to the public at large which have enabled us to provide detailed information grounded in reality about this out-of-school alternative learning pathway.

^{ix} Exceptionally, admission may be granted to applicants aged 25 or over, however, this is extremely rare because they are ineligible for EU funding (meaning that the all costs with this applicant must be covered exclusively by the IEVT budget).

^x Employment agencies, together with the 32 State-run Vocational Training Centers are the front-line operational units of the IEVT. Under the Law, no one under the age of 16 can register for employment, however those 14 years of age or older are allowed to register for the purpose of applying for vocational training programs.

^{xi} Before 2008 reform legislation was introduced, which drastically reduced the total duration of DAS courses, particularly of the more expensive in-class component of learning, the average cost to undertake a course was almost 350 000 Euros – a staggering amount (Quatenaire/IESE, 2007).